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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,206	07/29/2003	Narayan L. Gehlot	29250-000928/US	5475

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EXAMINER	
BALAOING, ARIEL A	

ART UNIT	PAPER NUMBER
2683	

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/628,206	GEHLOT ET AL.	
	Examiner	Art Unit	
	Ariel Balaoing	2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☒ Claim(s) *9,10,12,16 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n). Claims 9, 10, 12, 16, and 17 are objected to.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, 9-20, 23, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by MARLEVI et al (US 5,572,221).

Regarding claim 1, MARLEVI discloses a method for operating a mobile unit, comprising the steps of: determining a future location coordinate of a mobile unit (Figure 4, abstract, column 3:lines 25-45, column 5:lines 57-66); and selecting a protocol, for use by the mobile unit, based on the future location coordinate (column 5:lines 57-66, column 6:lines 50-58, column 15:lines 20-28, column 15:line 65-column 16:line 35; services and/or data services are pre-connected or pre-assigned based on future

location, the use of which would require selection of protocols for use by the mobile from the LSIM).

Regarding claim 2, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further comprising the steps of: receiving signals representing a location and corresponding time coordinate of the mobile unit (abstract, column 3:lines 25-45, column 4:lines 3-8); determining a path of motion of the mobile unit based on the received signals (column 4:lines 26-40, column 7:lines 43-57); and determining the future location coordinate based on the path of motion (column 4:lines 26-40, column 7:lines 43-57).

Regarding claim 3, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further comprising the steps of: receiving signals representing a plurality of location and corresponding time coordinates of the mobile unit (column 3:lines 25-45, column 4:lines 21-40); and determining the path of motion by calculating a direction of the mobile unit based on the plurality of location and time coordinates (column 3:lines 25-45, column 4:lines 21-40).

Regarding claim 4, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further comprising the steps of: storing previous location and time coordinates of the mobile unit in a historical database (column 3:lines 25-45, column 4:lines 21-40); obtaining a coordinate representing at least one of a current time and a current location of the mobile unit (column 3:lines 25-45, column 4:lines 21-40); and performing a lookup in the historical

database based on the obtained coordinate to determine an expected path of motion for the mobile unit (column 3:lines 25-45, column 4:lines 21-40).

Regarding claim 5, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further comprising the steps of: maintaining a protocol database [LSIM] (column 15:line 65-column 16:line 15) associating a protocol with at least one region (column 15:line 65-column 16:line 35); obtaining a coordinate representing a current location of the mobile unit (abstract); determining a present region in the protocol database based on the current location of the mobile unit (column 15:line 65-column 16:line 35); and determining the future location coordinate as a boundary of the present region in the protocol database (column 16:lines 16-35) that intersects the path of motion (column 3:line 53-column 4:line 2, column 4:lines 26-40), wherein the boundary separates the present region from an adjacent region (column 7:line 61- column 8:line 1; boundaries in general separate adjacent regions).

Regarding claim 6, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses wherein the selecting step further comprises the step of: selecting the protocol associated with the adjacent region in the protocol database (column 15:lines 20-41, column 16:line 66-column 16:line 35; LSIM in conjunction with the PMM function to support different applications, protocols, and resources according to predicted location of mobile).

Regarding claim 9, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further comprising the

step of: initiating operations according to the selected protocol while substantially operating using a present protocol (column 15:lines 20-28, column 15:line 65-column 16:line 35).

Regarding claim 10, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further comprising the steps of: operating an application in the mobile unit to process data according to a present protocol; and altering operations of the application to process data according to the selected protocol at a time substantially contemporaneous with the mobile unit's arrival at a location corresponding to the future location coordinate (column 15:lines 20-41, column 15:line 66-column 16:line 35; dynamic service connections are managed by the LSIM and allow for processed data to continue when changing protocol).

Regarding claim 11, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further comprising the step of: operating the application to conduct a data session, wherein the data session is maintained while the operations of the application are altered (column 15:lines 20-41, column 15:line 66-column 16:line 35).

Regarding claim 12, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses wherein the present and selected protocols each correspond to a different communication network selected from the group consisting of at least: a wireless local area network [pico-cell area] and a cellular network [macro-cell] (column 6:line 59-column 7:line 6; coverage of the smaller

cell is used in buildings, while the GSM macrocell covers a far larger area, including the picocell area).

Regarding claim 13, MARLEVI further discloses a mobile unit operable to: determine a future location coordinate of the mobile unit (abstract, column 4:lines 26-40, column 7:lines 43-57); and select a protocol, for use by the mobile unit, based on the future location (column 5:lines 57-66, column 6:lines 50-58, column 15:lines 20-28, column 15:line 65-column 16:line 35; services and/or data services are pre-connected or pre-assigned based on future location, the use of which would require selection of protocols for use by the mobile from the LSIM).

Regarding claim 14, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further operable to: receive signals representing a plurality of location and corresponding time coordinates (column 3:lines 25-45, column 4:lines 21-40); determine a path of motion (column 3:lines 25-45, column 4:lines 21-40), wherein the path of motion includes a present location and a direction calculated based on the plurality of location and corresponding time coordinates (column 3:lines 25-45, column 4:lines 21-40); and determine the future location coordinate based on the path of motion (column 3:lines 25-45, column 4:lines 21-40).

Regarding claim 15, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further operable to: perform a lookup in a protocol database based on the path of motion (column 15:lines 20-41, column 15:line 66- Column 16:line 15), wherein the protocol database associates

a protocol with each of at least one region (column 15:line 66- Column 16:line 15); determining a present region based on the performed lookup (column 16:lines 30-46); and selecting the protocol associated with the present region in the protocol database (column 15:line 66- Column 16:line 45).

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further operable to: initiate operations according to the selected protocol while substantially operating using a present protocol (column 15:lines 20-41, column 16:lines 16-35).

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further operable to: operate an application to process data according to a present protocol; and alter operations of the application to process data according to the selected protocol at a time substantially contemporaneous with an arrival at a location corresponding to the future location (column 15:line 66- Column 16:line 45; mobile is pre-connected at future location and operation of an application are made available when mobile enters the region).

Regarding claim 18, MARLEVI discloses a base station (110-Figure 2) operable to: maintain a protocol database [LSIM] associating a protocol with each of at least one region (column 15:line 66- Column 16:line 45); obtain a path of motion for a mobile unit (column 3:lines 14-25), wherein the path of motion includes a current location and a direction of the mobile unit (column 3:lines 14-25; pattern sequence indicate the path of motion as well as a direction in which mobile is traveling); determine a present region in

the protocol database based on the current location of the mobile unit (column 3:line 45-column 4:line 1, column 16:lines 16-35); and determine a future location coordinate of the mobile unit as a boundary of the present region in the protocol database (column 16:lines 16-35) that intersects the path of motion (column 3:line 53-column 4:line 2, column 4:lines 26-40), wherein the boundary separates the present region from an adjacent region (column 7:line 61- column 8:line 1; boundaries in general separate adjacent regions).

Regarding claim 19, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further operable to: receive signals representing the path of motion of the mobile unit (abstract, column 3:lines 25-45, column 4:lines 3-8).

Regarding claim 20, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. MARLEVI further discloses further operable to: receive signals representing a plurality of location and corresponding time coordinates of the mobile unit (abstract, column 3:lines 25-45, column 4:lines 3-8); store the received location and corresponding time coordinates in a historical database (abstract, column 3:lines 25-45, column 4:lines 3-8, column 15:lines 20-28); obtain a coordinate representing at least one of a current time and a current location of the mobile unit (abstract, column 7:lines 44-57); and perform a lookup of the historical database based on the obtained coordinate to determine an expected path of motion for the mobile unit (column 11:lines 11-62, column 15:lines 20-28).

Regarding claim 23, MARLEVI discloses a mobile unit comprising (abstract): means for determining a future location coordinate of the mobile unit (abstract, column 2:lines 59-67); and means for selecting a protocol (column 15:line 66-column 16:line 15), for use by the mobile unit, based on the future location (column 16:lines 7-29).

Regarding claim 24, MARLEVI discloses a base station comprising: means for maintaining a protocol database associating a protocol with each of at least one region column 15:line 66-column 16:line 15); means for obtaining a path of motion for a mobile unit (abstract, column 3:lines 14-25, column 4:lines 3-8), wherein the path of motion includes a current location and a direction of the mobile unit (column 4:lines 9-20); means for determining a present region in the protocol database based on the current location of the mobile unit (column 15:line 66-column 16:line 15); and means for determining a future location coordinate of the mobile unit as a boundary of the present region in the protocol database that intersects the path of motion (column 3:lline 53-column 4:line 2, column 15:line 66-column 16:line 45), wherein the boundary separates the present region from an adjacent region (column 7:line 61- column 8:line 1; boundaries in general separate adjacent regions).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 7, 8, 21, and 22 rejected under 35 U.S.C. 103(a) as being unpatentable over MARLEVI et al (US 5,572,221) in view of YEA et al (US 6,829,491 B1).

Regarding claim 7, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. However MARLEVI does not disclose further comprising the step of: revising the protocol database based on service of quality data corresponding to the mobile unit. YEA discloses further comprising the step of: revising the protocol database based on service of quality data corresponding to the mobile unit (abstract, column 8:lines 19-41, column 10:lines 34-50). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify MARLEVI to include a way to measure signal strength to attain quality data as both systems relate to a wireless communication system and protocol assignment. This is beneficial in that it allows MARLEVI the ability to determine and adjust cell boundaries to attain desired performance characteristics.

Regarding claim 8, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. However MARLEVI does not disclose further comprising the step of: revising the protocol database based on detected changes in

environmental conditions. YEA discloses further comprising the step of: revising the protocol database based on detected changes in environmental conditions (column 1:lines 28-32, column 8:lines 42-66).

Regarding claim 21, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. However MARLEVI does not disclose further operable to: receive signals from a mobile unit representing service quality data relating to the mobile unit's current location; and update the protocol database based on the service quality data. YEA discloses further operable to: receive signals from a mobile unit representing service quality data relating to the mobile unit's current location; and update the protocol database based on the service quality data (abstract, column 8:lines 19-41, column 10:lines 34-50). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify MARLEVI to include a way to measure signal strength to attain quality data as both systems relate to a wireless communication system and protocol assignment. This is beneficial in that it allows MARLEVI the ability to determine and adjust cell boundaries to attain desired performance characteristics.

Regarding claim 22, see the rejections of the parent claim concerning the subject matter this claim is dependant upon. However MARLEVI does not disclose further operable to: update boundaries of the at least one region in the protocol database based on the service quality data. YEA discloses further operable to: update boundaries of the at least one region in the protocol database based on the service quality data (column 8:lines 19-41, column 10:lines 34-50).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

STRUHSAKER (US 2002/0098843) – WLAN service in fixed wireless system

DUNN et al (US 6,591,103 B1) – Carrier selection in overlapping networks

GRAY et al (US 2004/0017829 A1) – Reconfigurable protocols and architectures

CHIA (US 5,394,158) – Location determinization and handover

HAMASAKI et al (US 2004/0137901 A1) – Vertical handover with WLAN

MOLES et al (US 6,615,038 B1) – Updating a MS configuration database

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ariel Balaoing whose telephone number is (571) 272-7317. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 AM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ariel Balaoing
Patent Examiner
Art Unit 2683

AB